

WHAT IS CLAIMED IS:

1. A CFM binder slurry (24) for a continuous filament mat (50) used in a phenolic pultrusion system comprising:

a phenolic compatible silane; and

a polyvinyl acetate copolymer binder.

2. The CFM binder slurry of claim 1 further comprising a non-ionic surfactant, a defoamer, water and an organic acid.

3. The CFM binder slurry of claim 2, wherein said organic acid is acetic acid and wherein the pH of the CFM binder slurry is maintained between approximately 4 and

4. The CFM binder slurry of claim 1, wherein said phenolic compatible silane comprises a gamma-aminopropyl trimethoxy silane.

5. A method for making a continuous filament mat (50), the method comprising the steps of:

providing at least one continuous filament fiber (12);

applying a sizing composition (18) to each of said at least one continuous filament fibers;

forming said at least one continuous filament fiber into a continuous fiber strand (13);

applying a CFM binder (24) to said continuous fiber strand, said CFM binder comprising a phenolic compatible silane and a polyvinyl acetate copolymer binder; and

drying and curing (15) said CFM binder on said continuous fiber strand;

pressing (16) said continuous fiber strand having said CFM binder to form the continuous filament mat.

6. The method of claim 5, wherein said dried CFM binder comprises between 4 and 8% of the total weight of said continuous filament mat.

7. The method of claim 5, wherein said at least one continuous filament fiber comprises at least one continuous e-type glass filament fiber.

8. The method of claim 5, wherein the pH of said sizing composition and said CFM binder slurry is between approximately 4 and 6.

9. A method for forming a pultruded composite part (60) comprising the steps of:

applying a sizing composition (18) to at least one continuous filament fiber (12);
forming said at least one continuous filament fiber into a continuous fiber strand
(13);

applying a CFM binder (24) to said continuous fiber strand, said CFM binder
5 comprising a phenolic compatible silane and a polyvinyl acetate copolymer binder; and
drying and curing (15) said CFM binder on said continuous fiber strand;
pressing (16) said continuous fiber strand having said CFM binder;
slitting (30) said continuous filament mat to a desired size and shape to form a
continuous filament mat (50);

10 pulling at least one of said continuous filament mats and at least one continuous
filament roving (52) through a phenolic resin bath (54); and

molding and curing said continuous filament mat and said at least one continuous
fiber roving within a heated pultrusion die (56) to form the pultruded composite part.

10. The method of claim 9, wherein said first amount of said dried CFM binder
15 comprises between 4 and 8% of the total weight of said at least one continuous filament
mats.

11. The method of claim 9, wherein said at least one continuous filament fiber
comprises at least one continuous e-type glass filament fiber.

12. The method of claim 9, wherein the pH of said sizing composition and said
20 CFM binder slurry are between approximately 4 and 6.

13. A method for forming a pultruded composite part (60) comprising the steps
of:

applying a sizing composition (18) to at least one continuous filament fiber (12);
forming said at least one continuous filament fiber into a continuous fiber strand
25 (13);

applying a CFM binder (24) to said continuous fiber strand, said CFM binder
comprising a silane and a polyvinyl acetate copolymer binder; and

drying and curing (15) said CFM binder on said continuous fiber strand;
pressing (16) said continuous fiber strand having said CFM binder;
30 slitting (30) said continuous filament mat to a desired size and shape to form a
continuous filament mat (50);

pulling at least one of said continuous filament mats and at least one continuous filament roving (52) through a urethane resin injection system (74); and

molding and curing said continuous filament mat and said at least one continuous fiber roving within a heated pultrusion die (56) to form the pultruded composite part.

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